

LISTING OF CLAIMS

1. (Currently Amended) A laminate which exhibits photocatalytic activity capable of decomposing triolein at a rate of $5 \mu\text{g}/\text{cm}^2/\text{day}$ or more when irradiating UV rays in UV-A range at a strength of $3 \text{ mW}/\text{cm}^2$ under an atmospheric temperature of 25°C and relative humidity of 70%, wherein the laminate comprises a metallic plate ~~and~~ or a resin structure characterized in that the plate and the structure are ~~obtainable~~ obtained by laminating a photocatalyst-supporting film onto the surface of a metallic plate or a resin substrate by heat-pressing.

2. (Original Claim) The metallic plate and the resin structure laminated with a photocatalyst-supporting film according to Claim 1 characterized in that the photocatalyst-supporting film is made of polymer resin film in which a photocatalyst layer is carried on the film via an adhesive layer.

3. (Original Claim) The metallic plate and the resin structure laminated with a photocatalyst-supporting film according to Claim 2 characterized in that the polymer resin film is a film on which 2 or more resin films are laminated.

4. (Previously presented) The metallic plate and the resin structure laminated with a photocatalyst-supporting film according to Claim 2 characterized in that the polymer resin film is made of a resin selected from the group consisting of polycarbonate resins, copolymers of at least 2 polymethylmethacrylate resins; copolymers of at least two polyacrylate resins, copolymers of polymethylmethacrylate/polyacrylate resins, poly(vinyl chloride) resins and cellophane resins.

5. (Previously Presented) The metallic plate and the resin structure laminated with a photocatalyst-supporting film according to Claim 2 characterized in that the thickness of the polymer resin film is in a range of from 5 to $200 \mu\text{m}$.

6. (Previously Presented) The metallic plate and the resin structure laminated with a photocatalyst-supporting film according to Claim 2 characterized in that the adhesive layer is formed by coating a coating solution for an adhesive layer containing a silane coupler as a hardener.

7. (Currently amended) The metallic plate and the resin structure laminated with a photocatalyst-supporting film according to Claim 2 characterized in that a coating solution for an adhesive layer prepared by adding a silane coupler in an amount of 0.1-5% by weight relative to the weight of the coating solution as a hardener, wherein the a coating solution comprises (1) or (2) wherein (1) is a silicon denaturated resin in an amount of 2-20% by weight which contains polysiloxane in an amount of 10-50% by weight and wherein (2) is a silicon denaturated resin in an amount of 2-20% by weight ~~and~~ which contains colloidal silica in an amount of 5-30% by weight is used for the coating solution for said adhesive layer.

8. (Original Claim) The metallic plate and the resin structure laminated with a photocatalyst-supporting film according to Claim 6 characterized in that a coating solution prepared by adding a silane coupler as a hardener in an amount of 0.1-5% by weight relative to the weight of the coating solution into a solution containing either monoalkyltrimethoxysilanes or its hydrolyzed product in an amount of 1-10% by weight and silica sol in an amount of 0.1-5% by weight is used as the coating solution for an adhesive layer.

9. (Previously Presented) The metallic plate and the resin structure laminated with a photocatalyst-supporting film according to Claim 2 characterized in that the thickness of the adhesive layer is in a range of from 0.5 to 5 μm .

10. (Previously Presented) The metallic plate and the resin structure laminated with a photocatalyst-supporting film according to Claim 2 characterized in that the photocatalyst layer contains a metal oxide sol in an amount of 1-10% by weight as solid component and titanium dioxide in an amount of 1-10% by weight as solid component.

11. (Previously Presented) The metallic plate and the resin structure laminated with a photocatalyst-supporting film according to Claim 2 characterized in that the photocatalyst layer contains silica sol in an amount of 1-10% by weight, either of monoalkyltrimethoxysilane or its hydrolyzed product in an amount of 1-10% by weight and titanium dioxide in an amount of 1-10% by weight.

12. (Previously Presented) The metallic plate and the resin structure laminated with a photocatalyst-supporting film according to Claim 10 characterized in that the thickness of the photocatalyst layer is in a range of from 0.1 to 5 μm .

13. (Previously presented) The metallic plate laminated with a photocatalyst-supporting film according to Claim 1 characterized in that the metallic plate is a metallic plate selected from the group consisting of iron plate, steel plate, aluminium plate and aluminium alloy plate.

14. (Previously presented) The metallic plate laminated with a photocatalyst-supporting film according to Claim 1 characterized in that the metallic plate is any of resin-coated metallic plate, paint-coated metallic plate and enamelled metallic plate, which are coated in either single or multiple layers with at least one of the resins selected from the group consisting of poly(vinyl chloride) resins, polyethyleneterephthalate resins and polymethylmethacrylate resins.

15. (Currently amended) The metallic plate laminated with a photocatalyst-supporting film according to Claim 1 characterized in that the shape of the metallic plate is selected from the group consisting of plate-form, tubular and corrugated-form.

16. (Previously Presented) The resin structure laminated with a photocatalyst-supporting film according to Claim 1 characterized in that the resin substrate is made of a resin selected from the group consisting of poly(vinyl chloride) resins, polyethyleneterephthalate resins, polymethylmethacrylate resins, polycarbonate resins, polyethylene resins, polypropylene resins, shock-resistant denaturated polystyrene resins, and acryl-butadiene-styrene copolymers.

17. (Previously Presented) The resin structure laminated with a photocatalyst-supporting film according to Claim 1 characterized in that the shape of the resin substrate is plate-form, sheet-like, woven fabric-like, nonwoven fabric-like, resin-containing reinforced fabric-like or tubular.

18. (Previously presented) A method for preparing the metallic plate and the resin structure laminated with a photocatalyst-supporting film according to Claim 1

characterized in that the laminated metallic plate or the resin structure is prepared by the steps comprising

(a) coating a polymer resin film with a coating solution ~~for~~ comprising an adhesive and a silane coupler as a hardener and then drying to form an adhesive layer and

(b) subsequently coating the adhesive layer with a coating solution comprising a photocatalyst and then drying the coating solution to prepare a photocatalyst-supporting film which carries the photocatalyst layer on the polymer resin film via the adhesive layer, and

(c) then laminating the photocatalyst-supporting film onto the surface of a metallic plate or a resin substrate by applying heating and pressing.

19. (Previously presented) Reflection plates for lighting equipments, outdoor-use signboards and other signs, home-use electric appliances, guardrails and road signs using comprising the metallic plate or the resin structure laminated with a photocatalyst-supporting film according to Claim 1.

20. (Previously presented) Outdoor-use signboards and other signs, telephone box, materials for outdoor tents, washstands, modular bathes, systematic kitchens, water tanks for ornamental fishes, plastic cases, wall papers, food-use trays, and packaging films using the resin structure laminated with a photocatalyst-supporting film according to Claim 1.

21. (Original claim) A coating agent for adhering a photocatalyst for preparing a photocatalyst layer onto a polymer resin film via an adhesive layer characterized in that the coating agent is prepared by adding a silane coupler in an amount of 0.1-5% by weight relative to the weight of a coating solution for the adhesive layer as a hardening agent into the coating solution for an adhesive layer containing 2-20% by weight of silicon denaturated resin, which contains either polysiloxane in an amount of 10-50% by weight or colloidal silica in an amount of 5-30% by weight.

22. (Original Claim) A coating agent for adhering a photocatalyst for preparing a photocatalyst layer onto a polymer resin film via an adhesive layer characterized in that the coating agent is prepared by adding a silane coupler in an amount of 0.1-5% by

weight relative to the weight of a coating solution for an adhesive layer as a hardener into the coating solution for an adhesive layer containing either monoalkyltrimethoxysilane or its hydrolyzed product, polysiloxane, in an amount of 1-10% by weight and silica sol in an amount of 0.1-5%.